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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,943	03/02/2004	William R. Wilson	8654/2222	2176

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EXAMINER	
DELACROIX MUIRHEI, CYBILLE	
ART UNIT	**PAPER NUMBER**
1614	

DATE MAILED: 07/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/790,943	WILSON ET AL.	
	Examiner	Art Unit	
	Cybille Delacroix-Muirheid	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/22/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

The following is responsive to applicant's amendment received May 10, 2005.

Claims 1-23 are currently pending.

The previous claim rejection under 35 USC 102(b), set forth in paragraph 1 of the office action mailed Nov. 10, 2004 is withdrawn in view of applicant's amendment and the remarks contained therein.

The previous claim rejection under 35 USC 103(a) over Wilson in view of Siemann et al. or Zhou et al. (paragraph 3 of the office action mailed Nov. 10, 2004) is withdrawn in view of applicant's amendment and the remarks contained therein. Pursuant to 35 USC 103(c), the Wilson reference (USPN 6,667,337) is removed as prior art against the pending claims.

Finally, the previous claim rejection under 35 USC 103(a) over Siemann et al. (paragraph 2 of the office action mailed Nov. 10, 2004) is withdrawn in view of the following new ground(s) of rejection. Applicant's remarks traversing this rejection have been considered but are moot in view of the following new ground(s) of rejection.

The information disclosure statement filed May 10, 2005 fails to comply with 37 CFR 1.97(c) because it lacks the fee set forth in 37 CFR 1.17(p). It has been placed in the application file, but the information referred to therein has not been considered.

New Ground(s) of Rejection

Claim Rejection(s)—35 USC 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Siemann et al., (abstract already of record, PTO-892) and Siemann et al., Int. J. Cancer: 99, 1-6 (2002). (cited by applicant).

PLEASE NOTE: while a 102 rejection normally requires a single reference, the court has held that another reference may be used to explain (supplement) the teachings of the primary reference. Please see In re Baxter Travenol Labs, 21 USPQ2d 1281 (CAFC 1991).

Siemann et al. disclose methods of treating sarcoma, breast and ovarian tumors with a combination of DMXAA (17.5 mg/kg) and cisplatin or cyclophosphamide (at various dosages). Results of the methods demonstrate that when DMXAA is combined with these conventional chemotherapeutics, tumor cell kill was increased 10-500-fold compared to that seen with chemotherapy alone. Specific compositions or pharmaceutical compositions are taught by Siemann et al. (abstract) as DMXAA (17.5 mg/kg) combined with a range of doses of cisplatin or cyclophosphamide, gives a 10-500 fold tumor cell increase. Finally, a kit for separate administration is supported by the language that the tumors were treated with DMXAA at 0-20 mg/kg (individual dose) and

then later in the abstract the combination of DMXAA is taught with the cisplatin or cyclophosphamide. Please see the abstract.

The Siemann et al. abstract is being supplemented by Siemann et al., Int. J. of Cancer, Vol. 99, (2002) which is not prior art. Siemann et al. support what is meant by rodent tumor model. At page 2 of the reference, under "tumor response assessment", Siemann et al. state "24 hr after treatment, tumor-bearing mice were killed." Therefore, a rodent tumor model is a mammal.

Claim Rejection(s)—35 USC 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating a limited number of cancers such as mammary carcinoma or pancreatic carcinoma, does not reasonably provide enablement for treating cancers in general. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The factors to be considered in determining whether a disclosure meets the enablement requirement of 35 U.S.C. 112, first paragraph, have been described in In re Wands, 8 USPQ2d 1400 (Fed. Cir. 1988). Among these factors are: (1) the nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount

of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary. When the above factors are weighed, it is the examiner's position that one skilled in the art could not practice the invention without undue experimentation.

(1) The nature of the invention:

The claims are drawn to methods of treating cancer by administering to a mammal in need thereof an effective amount of combination of DMXAA and at least one compound selected from the group consisting of platinum compounds, vinca alkaloids, alkylating agents, anthracyclines, topoisomerase I inhibitors, antimetabolites and topoisomerase II inhibitors.

(2) The state of the prior art

With respect to cancer, this a broad term which encompasses numerous forms of neoplastic diseases, each involving different types of tissues and organs and also includes blood-borne diseases. As recognized in the art, many different anti-neoplastic drugs are used to treat a variety of cancers, but there is no one drug or one drug combination, which is capable of treating all cancers in general. Please see pages 1226-1229 of Goodman & Gilman's.

Additionally, the Siemann et al. abstract (already of record) recognizes the use of DMXAA and cisplatin or cyclophosphamide for the treatment of sarcoma, breast and ovarian carcinoma.

(3) The relative skill of those in the art

The relative skill of those in the art is high. However, given the state of the art as set forth above, the artisan is currently unaware of any one particular anticancer agent or combination of agents that is effective against all cancer cell types.

(4) The predictability or unpredictability of the art

The unpredictability of the pharmaceutical and cancer art is high. Additionally, the lack of significant guidance from the present specification or prior art with regard to the actual treatment of all cancer cell types in a mammal, including a human, with the claimed compounds as the active ingredients makes practicing the claimed method unpredictable.

(5) The breadth of the claims

The complex nature of the subject matter to which the present claims are directed is exacerbated by the breadth of the claim. The claims are broad and encompass treatment of a vast number of possible cancer types including solid tumors as well as blood-borne tumors.

Finally, to the extent that the term "treatment" indicates inhibiting further development or causing the regression of a disease, i.e. cancer, such is not enabled for the breadth of the claims, which encompass all cancers in general.

(6) The amount of direction or guidance presented

Applicant's specification appears to only be enabled for the treatment of a limited number of cancers such as mammary and pancreatic cancer. It does not enable one of ordinary skill in the art to use the claimed invention in the treatment of the numerous neoplastic diseases covered by the term "cancer." Applicant's specification does not

set forth a representative number of examples of cancers, which would be treated by the claimed combination of compounds.

(7) The presence or absence of working examples

The working examples in the specification describe test results from animal models of mammary and pancreatic carcinoma. Please see Examples 1-2.

(8) The quantity of experimentation necessary

Since (1) the prior art recognizes that no one compound or combination of compounds is capable of treating the vast number of possible cancerous diseases encompassed by the term "cancer"; (2) the prior art recognizes activity of the claimed compounds against a limited number of cancer types, i.e. sarcoma, breast and ovarian carcinoma; (3) the specification provides guidance and working examples for only a limited number of cancers, i.e. mammary and pancreatic carcinoma and lacks a representative number of working examples of cancers that would treated by the claimed combinations and (4) since the claims are very broad and include treatment of any type of cancer ranging from solid cancers to blood-borne cancers, one of ordinary skill in the art would be burdened with undue experimentation to determine which cancers would be treated by administration of the claimed active agents.

Conclusion

Claims 1-23 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Cybille Delacroix-Muirheid** whose telephone number

is **571-272-0572**. The examiner can normally be reached on Mon-Thurs. from 8:30 to 6:00 as well as every other Friday from 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Christopher Low**, can be reached on **571-272-0951**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CDM
July 25, 2005

Cybille Delacroix-Muirheid
Patent Examiner Group 1600